Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

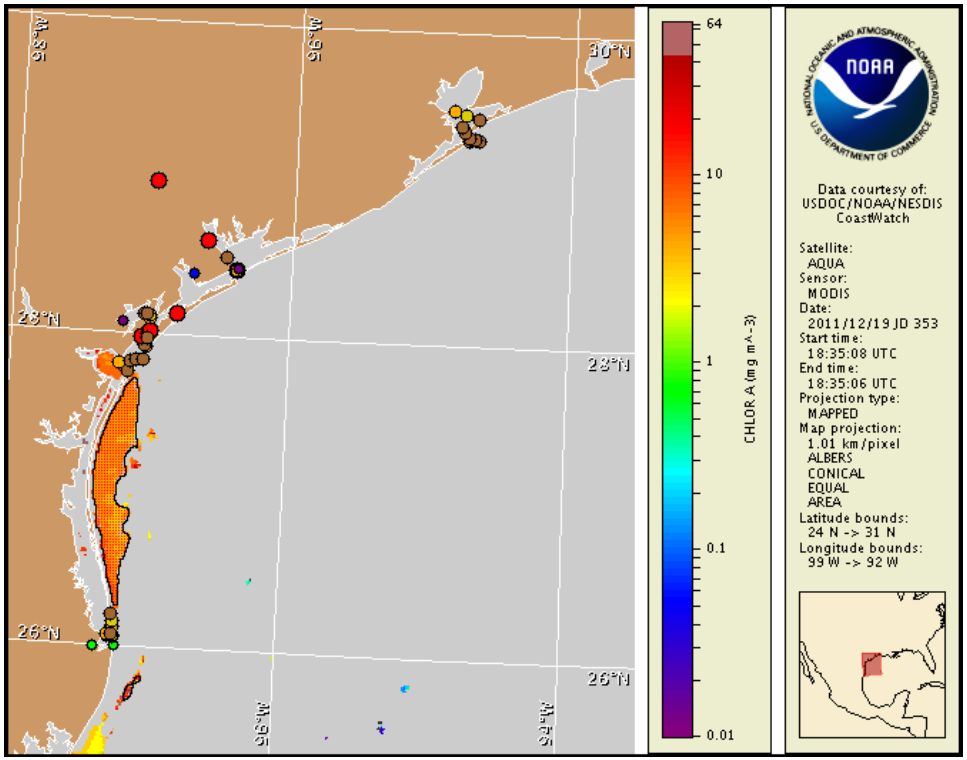
Wednesday, 21 December 2011

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Monday, December 19, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from December 11 to 21 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, within the Matagorda Bay area, in the Port Aransas/Aransas Bay area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre. Patchy high impacts are possible today through Friday in the Matagorda and Port Aransas/Corpus Christi Bay areas, Thursday and Friday in the Galveston Bay area, and Friday and Saturday in the South Padre Island region and within the lower Laguna Madre. Patchy moderate impacts are possible today in the Galveston Bay area, and Wednesday, Thursday, and Sunday in the South Padre Island region and within the lower Laguna Madre. Patchy low impacts are possible Saturday and Sunday in the Matagorda and Port Aransas/Corpus Christi Bay areas, and patchy very low impacts are possible Saturday and Sunday in the Galveston Bay area. Water samples last identified harmful algal blooms alongshore the Padre Island National Seashore region on November 28, and within the Brownsville Ship Channel on December 2. Associated respiratory impacts remain possible in these areas. No additional impacts are expected at the coast in Texas today through Sunday, December 25. All Texas bays and coastal waters remain closed to commercial and recreational oyster harvesting due to blooms of the harmful algae Karenia brevis (red tide).

Analysis

Due to the upcoming Federal Holiday, the next bulletin will be issued on Tuesday, December 27.

A harmful algal bloom continues along much of the Texas coastline.

No new samples have been received from the Galveston or Matagorda Bay regions. The most recent samples collected in the Galveston Bay region identified 'low a' to 'medium' *Karenia brevis* concentrations. In the Matagorda Bay region, samples collected over the past two weeks identified 'not present' to 'high' concentrations in the Matagorda and Lavaca Bay area and 'very low b' to 'low b' concentrations in the San Antonio/Espiritu Santo Bay area (12/5-14; TPWD).

In the Port Aransas region, samples collected today from the Gulf side of Aransas Pass at the UTMSI Pier indicate that *K. brevis* concentrations remain at 'low a'; fifty percent of the cells identified were *K. mikimotoi* (12/21; TPWD). Samples collected in the Aransas and Corpus Christi Bay areas last week identified 'very low a' to 'high' *K. brevis* concentrations (12/6-15; TPWD).

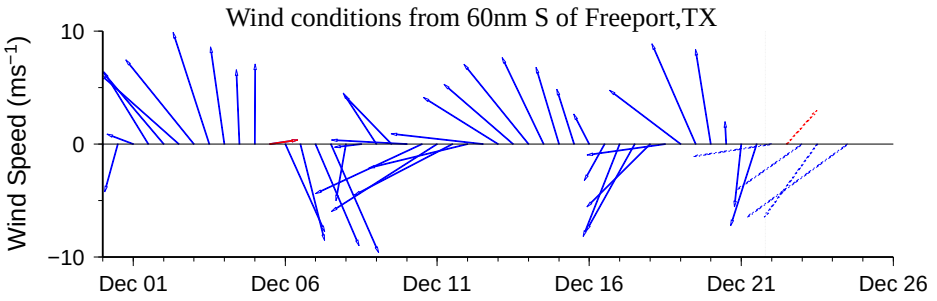
No samples have been received from alongshore Padre Island National Seashore since 'medium' to 'high' *K. brevis* concentrations were identified on 11/28 (TPWD). Recent samples from the South Padre Island region indicate that *K. brevis* concentrations in many areas have returned to between 'low a' and 'medium' (12/19-20; TPWD). Over the last two days, samples have identified 'low b' to 'medium' concentrations alongshore South Padre Island from Beach Access 6 to the UTPA Coastal Studies Lab and 'medium' concentrations within Brazos Santiago Pass (12/19-20; TPWD). In the eastern portion of the lower Laguna Madre, samples collected identified 'medium' concentrations from the Isla Blanca boat ramp and 'low a' to 'medium' concentrations just north of the boat ramp, on the east end of the Queen Isabella Causeway (12/19-20; TPWD). Near Port Isabel,

samples indicate 'medium' concentrations on the west end of the Causeway and 'very low b' concentrations within Canal C at Long Island Village (12/20; TPWD). One new sample collected within the Brownsville Ship Channel at the San Martin boat ramp indicates that *K. brevis* is not present (12/20; TPWD).

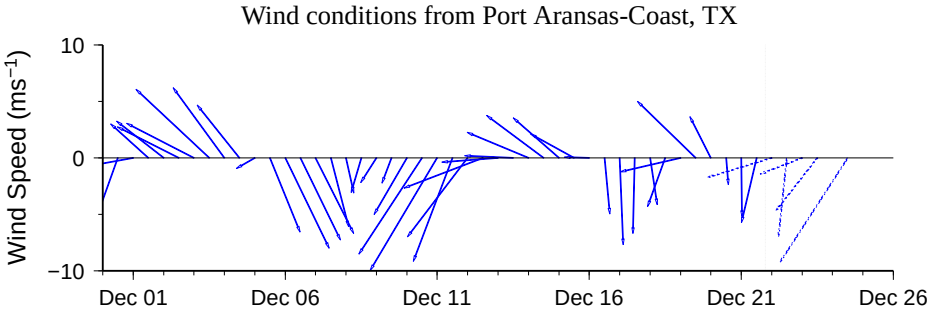
Recent imagery along the Texas coastline remains mostly obscured by clouds, limiting analysis. In imagery from 12/19 (MODIS; page 1) elevated to high chlorophyll (3 to 13 μg/L) is visible along- and offshore from Mustang Island to South Padre Island, and a patch of elevated to very high chlorophyll (4 to >20 μg/L) is visible offshore just south of the Rio Grande. No further analysis along the Texas coastline is possible at this time. Elevated chlorophyll at the coast may contain *K. brevis*, but could also be due to the continued resuspension of benthic chlorophyll and sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

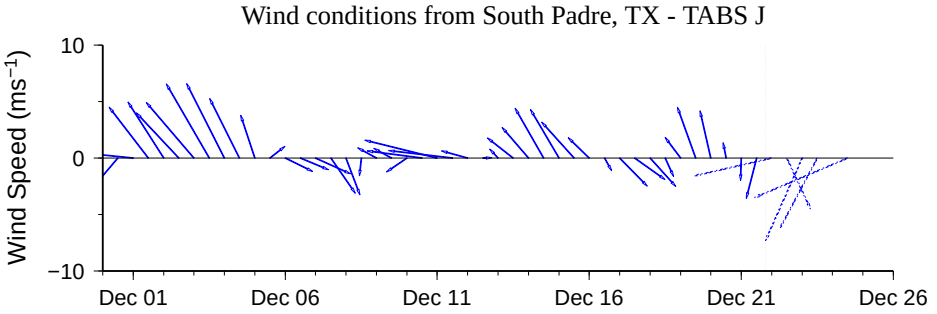
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of 40km south from the Galveston Bay region, 70km south from the Matagorda Peninsula region, 90km south from Port Aransas, and >150km south along the Padre Island National Seashore region and from Brazos Santiago Pass from December 19-24. Onshore winds forecasted over the next several days will increase the potential for impacts in the Galveston, Matagorda, and Aransas/Corpus Christi Bay regions today through Friday, and alongshore the South Padre Island region and within the lower Laguna Madre today through Sunday.

Derner, Kavanaugh



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



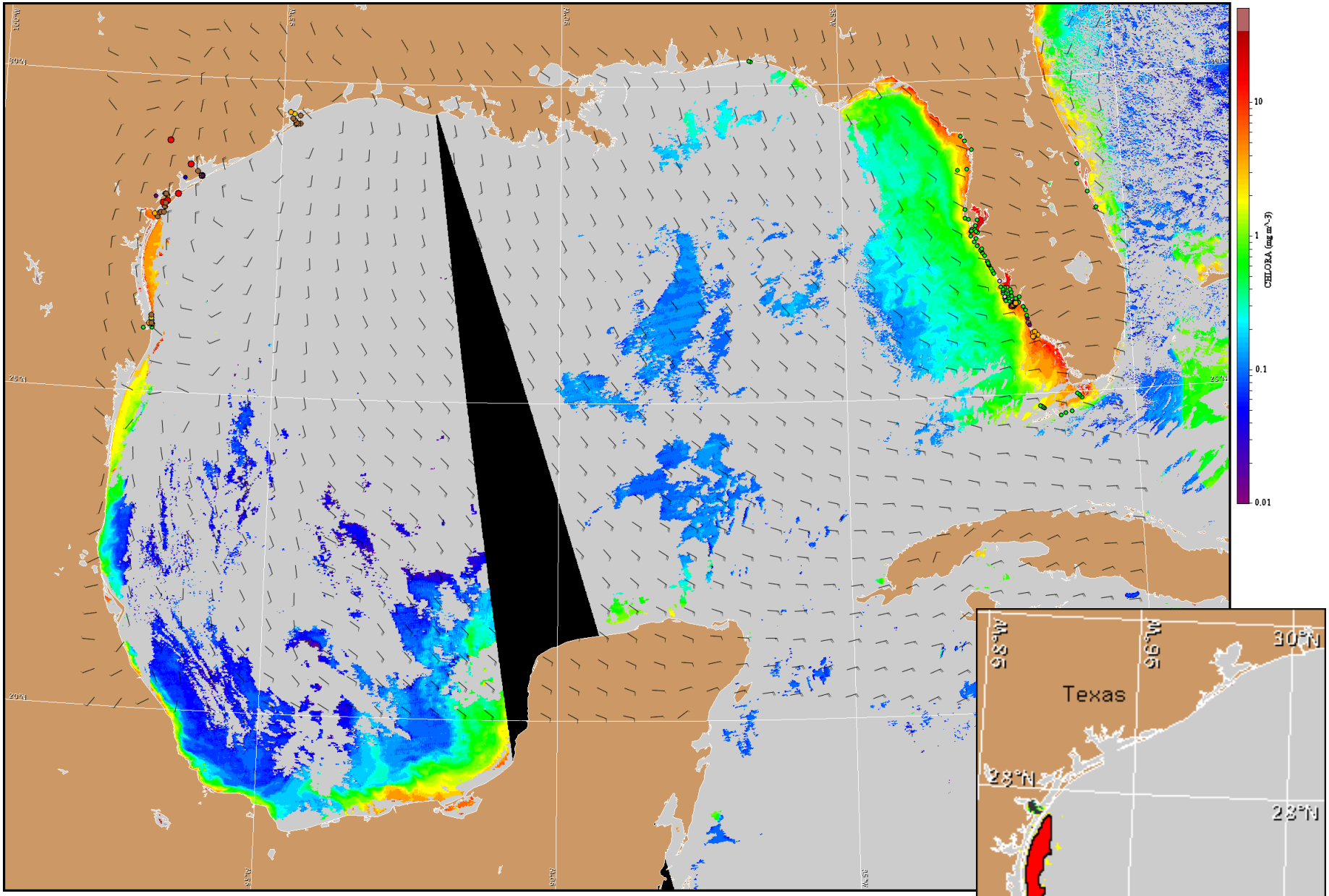


Wind Analysis

Galveston/Freeport: Northeast winds (10-15kn, 5-8m/s) today. East winds (10kn, 5m/s) tonight, becoming southeast (15-20kn, 8-10m/s) after midnight. North winds (10-25kn, 5-13m/s) Thursday becoming northeast (5-20kn, 3-10m/s) Thursday night through Friday. North winds (10-20kn, 5-10m/s) Saturday and Sunday.

Port Aransas: Northeast winds (10-15kn) today and tonight becoming north (5-10kn, 3-5m/s) after midnight. North winds (10-15kn) Thursday shifting northeast (5-20kn) Thursday afternoon through Friday. North winds (15-25kn, 8-13m/s) Friday night through Sunday.

South Padre: Northeast winds (15kn, 8m/s) today. East winds (15kn) tonight becoming variable after midnight. North winds (15-20kn) shifting northeast Thursday night though Friday. North winds (20-25kn) Saturday and Sunday.



Satellite chlorophyll image and forecast winds for December 22, 2011 12Z with cell concentration sampling data from December 11 to 21 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:
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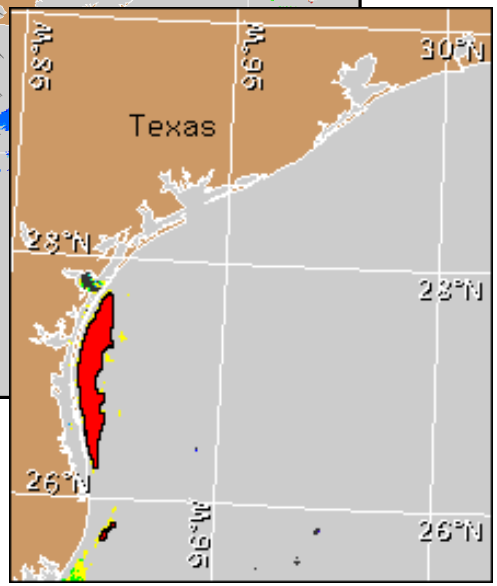

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).